

MERISTIC CHARACTERS

BONY PARTS (min-mode-max)

Vertebrae

Total: 90 - 92 - 94
 Precaudal: 35 - X - 40¹
 Caudal: 50¹ - X - 59

Gill Rakers & Branchiostegal Rays

Upper gill rakers: 3 - X - 5
 Lower gill rakers: 9 - X - 11
 Branchiostegal rays: 6 - X - 7

FIN COUNTS (min-mode-max)

Fin (Position)	Spine(s)	Ray(s)
Pelvic (Thoracic)	0 - 0 - 0	6 - X - 7
Dorsal	0 - 0 - 0	160 - X - 191
Pectoral	N/A	10 - X - 11
Anal	0 - 0 - 0	0 - 0 - 0

Caudal Fin Counts

Caudal upper secondary: X - X - X
 Caudal upper principal: 7 - X - 8²
 Caudal lower principal: 5 - X - 6²
 Caudal lower secondary: X - X - X

LIFE HISTORY FEATURES

GENERAL

Range:	Gulf of Alaska, 54 to 60 °N - South of southern California
Ecology:	Epi- and mesopelagic, 0-900 m
ELH Pattern:	Oviparous, pelagic eggs, pelagic larvae
Longevity:	

SPAWNING

Area:	
Season:	
Mode:	
Fecundity:	
Age at first maturity:	
Migration:	

EARLY LIFE HISTORY DESCRIPTION

EGGS

Diameter (mm):	2.6 - 3.7
No. of oil globules:	
Oil globule diameter:	
Yolk:	Homogeneous
Chorion:	Clear, smooth, thick
Egg/Embryo pigment:	head, gut, dorsal, finfold
Pigment diagnostics:	
Diagnostics:	Precocious development of elongate rays in anterior dorsal fin and pelvic fins

LARVAE

Hatch size(mm SL):	
Preanal length(%SL):	<50, with development increasing to >50
Flexion length (mm SL):	
Length at transformation (mm SL):	
Fin ray development sequence:	Anterior dorsal and pelvics precocious, posterior dorsal, caudal, pectorals

Larval Pigment Patterns

In each developmental larval stage, pigment is present in the regions listed below. For pigment regions see Figure 6.

Yolk-sac:

Preflexion: mouth, crown, cheek, dorsal gut, lateral gut, ventral gut, pectoral fin

Flexion: mouth, crown, nape, cheek, dorsal gut, lateral gut, ventral gut, pectoral fin

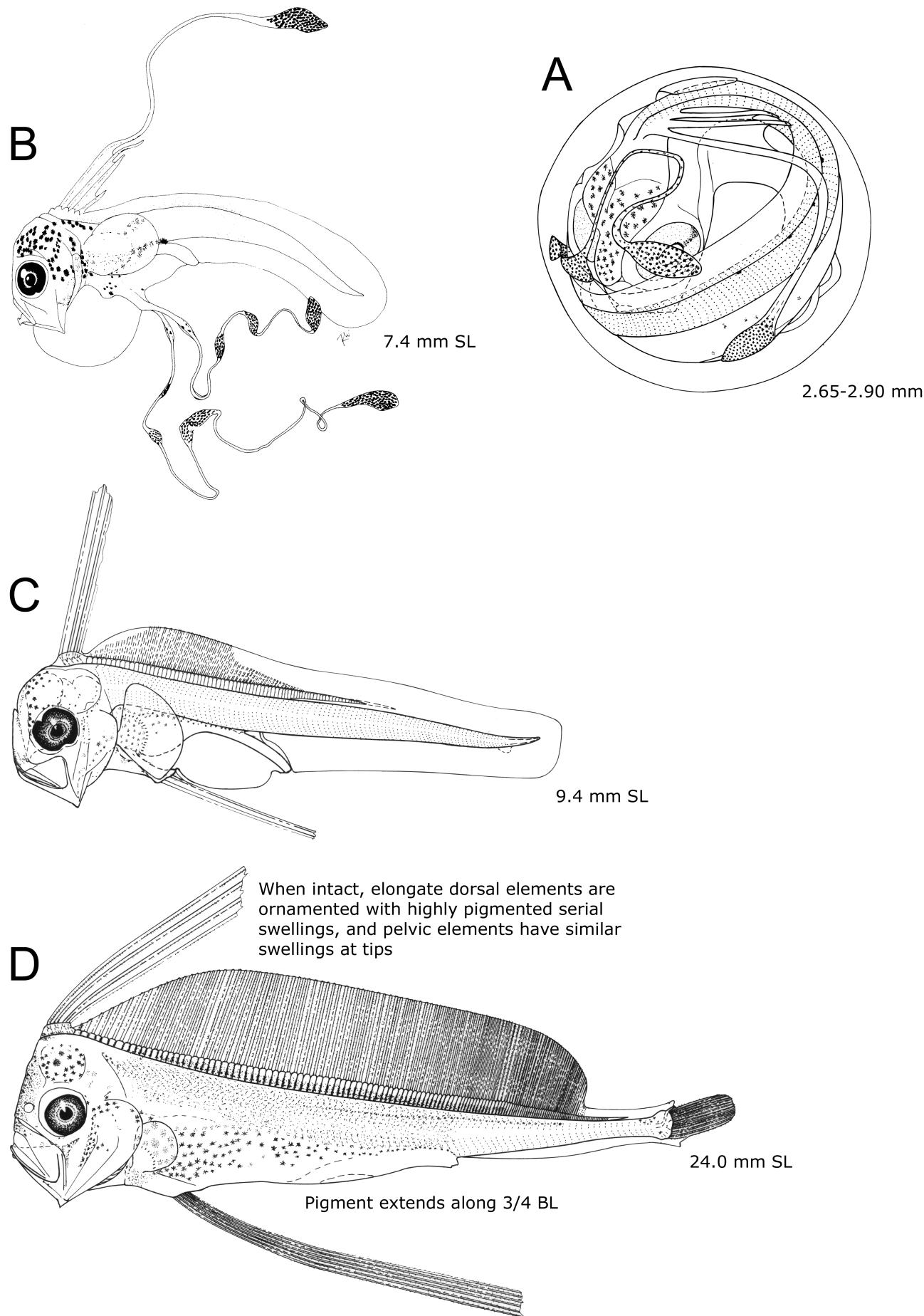
Postflexion: mouth, crown, nape, cheek, dorsal gut, lateral gut, ventral gut, dorsal finfold, pectoral fin, dorsal, ventral, mediolateral, caudal

Juvenile: mouth, crown, nape, cheek, dorsal gut, lateral gut, ventral gut, dorsal finfold, pectoral fin, dorsal, ventral, mediolateral, caudal

Pigment Diagnostics: Lack of postanal pigment in preflexion and flexion stages

Diagnostics

Lampriform characters: well-developed protrusible jaws, differentiated guts with open lumen and little yolk, elongate anterior dorsal elements (may be ornamented) and well-developed pelvic elements (may be ornamented with lengths to 40-60% NL); distinguished from *Lampris guttatus* by: ornamentation on dorsal and pelvic fins, no rapid change in body form from slender at hatching to deep-bodied



GENERAL REFERENCES

Ref 1: Matarese, A.C., A.W. Kendall, Jr., D.M. Blood, and B.M. Vinter. 1989.

Laboratory guide to early life history stages of Northeast Pacific fishes. NOAA Tech. Rep. NMFS 80, 652 p.

FOOTNOTES

¹ Fitch, J.E. 1964.

The ribbonfishes (Family Trachipteridae) of the eastern Pacific Ocean, with a description of a new species. Calif. Dep. Fish Game 50: 228-240.

² Hart, J.L. 1973.

Pacific fishes of Canada. Fish. Res. Bd. Can. Bull. 180, 740 p.

FIGURES

A: Matarese, A.C., and E.M. Sandknop. 1984.

Identification of fish eggs. In H.G. Moser, W.J. Richards, D.M. Cohen, M.P. Fahay, A.W. Kendall, Jr., and S.L Richardson (eds.), Ontogeny and systematics of fishes. Spec. Publ. 1, Am. Soc. Ichthyol. Herpetol., p. 27-31. Allen Press, Lawrence, KS, 760 p.

B: Charter, S.R., and H.G. Moser. 1996.

Trachipteridae: Ribbonfishes. In H.G. Moser (ed.), The early stages of fishes in the California Current region. CalCOFI Atlas 33, p. 669-677. Allen Press, Lawrence, KS, 1505 p.

C - D: Matarese, A.C., A.W. Kendall, Jr., D.M. Blood, and B.M. Vinter. 1989.

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